Christian Birkel

List of Publications by Year
in descending order

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73	2,718	186265	189892
papers	citations	28 h-index	50 g-index

75	75	75	2409
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Storage dynamics in hydropedological units control hillslope connectivity, runoff generation, and the evolution of catchment transit time distributions. Water Resources Research, 2014, 50, 969-985.	4.2	216
2	Temporal and spatial evaluation of satellite-based rainfall estimates across the complex topographical and climatic gradients of Chile. Hydrology and Earth System Sciences, 2017, 21, 1295-1320.	4.9	193
3	Stream water age distributions controlled by storage dynamics and nonlinear hydrologic connectivity: Modeling with high-resolution isotope data. Water Resources Research, 2015, 51, 7759-7776.	4.2	134
4	Modelling catchmentâ€scale water storage dynamics: reconciling dynamic storage with tracerâ€inferred passive storage. Hydrological Processes, 2011, 25, 3924-3936.	2.6	125
5	Advancing tracerâ€aided rainfallâ€“runoff modelling: a review of progress, problems and unrealised potential. Hydrological Processes, 2015, 29, 5227-5240.	2.6	120
6	Using SAS functions and highâ€resolution isotope data to unravel travel time distributions in headwater catchments. Water Resources Research, 2017, 53, 1864-1878.	4.2	102
7	Highâ€frequency storm event isotope sampling reveals timeâ€variant transit time distributions and influence of diurnal cycles. Hydrological Processes, 2012, 26, 308-316.	2.6	96
8	Conceptual modelling to assess how the interplay of hydrological connectivity, catchment storage and tracer dynamics controls nonstationary water age estimates. Hydrological Processes, 2015, 29, 2956-2969.	2.6	95
9	Using time domain and geographic source tracers to conceptualize streamflow generation processes in lumped rainfallâ€runoff models. Water Resources Research, 2011, 47, .	4.2	86
10	Modelling landscape controls on dissolved organic carbon sources and fluxes to streams. Biogeochemistry, 2015, 122, 361-374.	3.5	77
11	Developing a consistent processâ€based conceptualization of catchment functioning using measurements of internal state variables. Water Resources Research, 2014, 50, 3481-3501.	4.2	73
12	Key drivers controlling stable isotope variations in daily precipitation of Costa Rica: Caribbean Sea versus Eastern Pacific Ocean moisture sources. Quaternary Science Reviews, 2016, 131, 250-261.	3.0	68
13	Assessing the value of highâ€resolution isotope tracer data in the stepwise development of a lumped conceptual rainfallâ€“runoff model. Hydrological Processes, 2010, 24, 2335-2348.	2.6	67
14	Groundwater recharge mechanisms inferred from isoscapes in a complex tropical mountainous region. Geophysical Research Letters, 2016, 43, 5060-5069.	4.0	66
15	Towards a simple dynamic process conceptualization in rainfallâ€“runoff models using multiâ€criteria calibration and tracers in temperate, upland catchments. Hydrological Processes, 2010, 24, 260-275.	2.6	60
16	Deciphering key processes controlling rainfall isotopic variability during extreme tropical cyclones. Nature Communications, 2019, 10, 4321.	12.8	52
17	Moisture transport and seasonal variations in the stable isotopic composition of rainfall in <scp>Central American</scp> and <scp>Andean PÃ¡ramo</scp> during <scp>El NiÃ±o</scp> conditions (2015â€“2016). Hydrological Processes, 2019, 33, 1802-1817.	2.6	48
18	Improving regional flood risk assessment using flood frequency and dendrogeomorphic analyses in mountain catchments impacted by tropical cyclones. Geomorphology, 2022, 396, 108000.	2.6	45

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19	Tropical precipitation anomalies and d -excess evolution during El NiÃ±o 2014-16. Hydrological Processes, 2017, 31, 956-967.	2.6	44
20	Dendrogeomorphic reconstruction of floods in a dynamic tropical river. Geomorphology, 2020, 359, 107133.	2.6	42
21	Nonlinear and thresholdâ€dominated runoff generation controls DOC export in a small peat catchment. Journal of Geophysical Research G: Biogeosciences, 2017, 122, 498-513.	3.0	41
22	Modelling the impacts of land-cover change on streamflow dynamics of a tropical rainforest headwater catchment. Hydrological Sciences Journal, 2012, 57, 1543-1561.	2.6	37
23	Water sources and mixing in riparian wetlands revealed by tracers and geospatial analysis. Water Resources Research, 2016, 52, 456-470.	4.2	37
24	Integrating parsimonious models of hydrological connectivity and soil biogeochemistry to simulate stream DOC dynamics. Journal of Geophysical Research G: Biogeosciences, 2014, 119, 1030-1047.	3.0	35
25	Assessing urbanization impacts on catchment transit times. Geophysical Research Letters, 2014, 41, 442-448.	4.0	33
26	Spatially distributed hydro-chemical data with temporally high-resolution is needed to adequately assess the hydrological functioning of headwater catchments. Science of the Total Environment, 2019, 651, 1613-1626.	8.0	33
27	Conceptual modelling to assess the influence of hydro-climatic variability on runoff processes in data scarce semi-arid Andean catchments. Hydrological Sciences Journal, 2017, 62, 515-532.	2.6	32
28	A concerted research effort to advance the hydrological understanding of tropical pÃ¡ramos. Hydrological Processes, 2020, 34, 4609-4627.	2.6	32
29	Spatial aggregation of timeâ€variant stream water ages in urbanizing catchments. Hydrological Processes, 2015, 29, 3038-3050.	2.6	27
30	Spatially distributed tracerâ€aided modelling to explore water and isotope transport, storage and mixing in a pristine, humid tropical catchment. Hydrological Processes, 2018, 32, 3206-3224.	2.6	27
31	Characterizing the age distribution of catchment evaporative losses. Hydrological Processes, 2016, 30, 1308-1312.	2.6	25
32	Insight into the stable isotopic composition of glacial lakes in a tropical alpine ecosystem: <scp>C</scp>hirripÃ³, <scp>C</scp>osta <scp>R</scp>ica. Hydrological Processes, 2018, 32, 3588-3603.	2.6	25
33	Linking tracers, water age and conceptual models to identify dominant runoff processes in a sparsely monitored humid tropical catchment. Hydrological Processes, 2016, 30, 4477-4493.	2.6	24
34	Using synoptic tracer surveys to assess runoff sources in an Andean headwater catchment in central Chile. Environmental Monitoring and Assessment, 2017, 189, 440.	2.7	23
35	Exploring extreme rainfall impacts on flow and turbidity dynamics in a steep, pristine and tropical volcanic catchment. Catena, 2019, 182, 104118.	5.0	23
36	Spatial and temporal patterns, trends and teleconnection of cumulative rainfall deficits across Central America. International Journal of Climatology, 2019, 39, 1940-1953.	3.5	22

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37	Continuous in situ measurements of water stable isotopes in soils, tree trunk and root xylem: Field approval. Rapid Communications in Mass Spectrometry, 2022, 36, e9232.	1.5	22
38	Modelling storageâ€driven connectivity between landscapes and riverscapes: towards a simple framework for longâ€term ecohydrological assessment. Hydrological Processes, 2016, 30, 2482-2497.	2.6	21
39	ASSESSING THE CUMULATIVE IMPACTS OF HYDROPOWER REGULATION ON THE FLOW CHARACTERISTICS OF A LARGE ATLANTIC SALMON RIVER SYSTEM. River Research and Applications, 2014, 30, 456-475.	1.7	20
40	Climate and Water Conflicts Coevolution from Tropical Development and Hydroâ€Climatic Perspectives: A Case Study of Costa Rica. Journal of the American Water Resources Association, 2018, 54, 451-470.	2.4	20
41	Characterization of surface water isotope spatial patterns of Scotland. Journal of Geochemical Exploration, 2018, 194, 71-80.	3.2	20
42	Hydroclimatic controls on non-stationary stream water ages in humid tropical catchments. Journal of Hydrology, 2016, 542, 231-240.	5.4	19
43	Observational uncertainties in hypothesis testing: investigating the hydrological functioning of a tropical catchment. Hydrological Processes, 2015, 29, 4863-4879.	2.6	18
44	Hydroclimatic and ecohydrological resistance/resilience conditions across tropical biomes of <scp>C</scp>osta <scp>R</scp>ica. Ecohydrology, 2017, 10, e1860.	2.4	18
45	Tracerâ€Aided Modeling in the Lowâ€Relief, Wetâ€Dry Tropics Suggests Water Ages and DOC Export Are Driven by Seasonal Wetlands and Deep Groundwater. Water Resources Research, 2020, 56, e2019WR026175.	4.2	18
46	Using highâ€resolution isotope data and alternative calibration strategies for a tracerâ€aided runoff model in a nested catchment. Hydrological Processes, 2017, 31, 3962-3978.	2.6	17
47	Net landscape carbon balance of a tropical savanna: Relative importance of fire and aquatic export in offsetting terrestrial production. Global Change Biology, 2020, 26, 5899-5913.	9.5	17
48	Tracing Water Sources and Fluxes in a Dynamic Tropical Environment: From Observations to Modeling. Frontiers in Earth Science, 2020, 8, .	1.8	17
49	End member and Bayesian mixing models consistently indicate nearâ€surface flowpath dominance in a pristine humid tropical rainforest. Hydrological Processes, 2021, 35, e14153.	2.6	16
50	DOC Transport and Export in a Dynamic Tropical Catchment. Journal of Geophysical Research G: Biogeosciences, 2019, 124, 1665-1679.	3.0	15
51	Seasonal Shift From Biogenic to Geogenic Fluvial Carbon Caused by Changing Water Sources in the Wetâ€Dry Tropics. Journal of Geophysical Research G: Biogeosciences, 2020, 125, e2019JG005384.	3.0	15
52	Positive and neutral effects of forest cover on dryâ€season stream flow in Costa Rica identified from Bayesian regression models with informative prior distributions. Hydrological Processes, 2018, 32, 3604-3614.	2.6	13
53	Headwaters drive streamflow and lowland tracer export in a largeâ€scale humid tropical catchment. Hydrological Processes, 2020, 34, 3824-3841.	2.6	13
54	Effects of streamflow isotope sampling strategies on the calibration of a tracerâ€aided rainfallâ€runoff model. Hydrological Processes, 2021, 35, e14223.	2.6	13

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55	Modelling nonâ€stationary water ages in a tropical rainforest: A preliminary spatially distributed assessment. Hydrological Processes, 2020, 34, 4776-4793.	2.6	12
56	Structural changes to forests during regeneration affect water flux partitioning, water ages and hydrological connectivity: Insights from tracer-aided ecohydrological modelling. Hydrology and Earth System Sciences, 2021, 25, 4861-4886.	4.9	12
57	Remote sensing-aided rainfallâ€“runoff modeling in the tropics of Costa Rica. Hydrology and Earth System Sciences, 2022, 26, 975-999.	4.9	12
58	From mountains to cities: a novel isotope hydrological assessment of a tropical water distribution system. Isotopes in Environmental and Health Studies, 2020, 56, 606-623.	1.0	10
59	Quantifying the relative importance of stock level, river temperature and discharge on the abundance of juvenile Atlantic salmon (<scp>Salmo salar</scp>). Ecohydrology, 2020, 13, e2231.	2.4	9
60	Highâ€frequency multiâ€solute calibration using an in situ<scp>UV</scp>â€“visible sensor. Hydrological Processes, 2021, 35, e14357.	2.6	8
61	A preliminary isotopeâ€based evapotranspiration partitioning approach for tropical Costa Rica. Ecohydrology, 2021, 14, e2297.	2.4	7
62	Evaluating tropical drought risk by combining open access gridded vulnerability and hazard data products. Science of the Total Environment, 2022, 822, 153493.	8.0	7
63	Tracerâ€aided modelling reveals quick runoff generation and young streamflow ages in a tropical rainforest catchment. Hydrological Processes, 2022, 36, .	2.6	7
64	Stable isotopes evidence of recycled subduction fluids in the hydrothermal/volcanic activity across Nicaragua and Costa Rica. Journal of Volcanology and Geothermal Research, 2017, 345, 172-183.	2.1	6
65	Technical note: Uncertainty in multi-source partitioning using large tracer data sets. Hydrology and Earth System Sciences, 2019, 23, 5059-5068.	4.9	6
66	An anisotropic and inhomogeneous hidden Markov model for the classification of water quality spatioâ€temporal series on a national scale: The case of Scotland. Environmetrics, 2017, 28, e2427.	1.4	5
67	Characterizing solute budgets of a tropical Andean pÃ¡ramo ecosystem. Science of the Total Environment, 2022, 835, 155560.	8.0	5
68	Assessing land use influences on isotopic variability and stream water ages in urbanising rural catchments. Isotopes in Environmental and Health Studies, 2022, 58, 277-300.	1.0	4
69	Land cover change induced sediment transport behaviour in a large tropical Mexican catchment. Hydrological Sciences Journal, 0, , 1-14.	2.6	3
70	<scp>SEAS5</scp> skilfully predicts late w<scp>etâ€season</scp> precipitation in Central American Dry Corridor excelling in Costa Rica and Nicaragua. International Journal of Climatology, 2022, 42, 4953-4971.	3.5	3
71	Projected climate change impacts on tropical life zones in Costa Rica. Progress in Physical Geography, 0, , 030913332110470.	3.2	1
72	Hydrological Processes Special Issue â€œHydrological processes across climatic and geomorphological gradients of Latin Americaâ€• Hydrological Processes, 2020, 34, 156-158.	2.6	0

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73	ErosiÃ³n potencial estimada en el rÃo Papaloapan: eficiencia e incertidumbre en las modelaciones. Tecnologia Y Ciencias Del Agua, 0, , 01-57.	0.3	0